

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1. (Currently amended) A medical screw comprising:
a head for receiving a screw driving device; and
a cylindrical shaft having a length and extending from said head, wherein said shaft includes a threaded portion and a distal guiding tip for introducing said screw into a pre-drilled implantation site;

wherein the threaded portion includes helical threads that taper in diameter along the shaft.

Claim 2. (Original) The medical screw of claim 1 wherein said threaded portion of said medical screw comprises a first series of helical threads having a first diameter and a second series of helical threads interleaved with said first series of helical threads and having a second diameter, wherein said second diameter is different from said first diameter.

Claim 3. (Original) The medical screw of claim 1 wherein said distal guiding tip terminates in a point.

Claim 4. (Original) The medical screw of claim 1 wherein said distal guiding tip terminates in a beveled face.

Claim 5. (Original) The medical screw of claim 1 wherein said head is configured as one of a hexagon, square and rectangular head.

Claim 6. (Currently amended) The medical screw of claim [[1]] 68 wherein said head comprises at least one eyelet for receiving sutures.

Claim 7. (Currently amended) The medical screw of claim [[1]] 69 wherein said medical screw further comprises at least one counter-rotation channel, wherein said counter-rotation channel is configured to receive bone growth.

Claim 8. (Cancelled)

Claim 9. (Currently amended) The medical screw of claim [[1]] 68 wherein said shaft is cylindrical.

Claim 10. (Cancelled)

Claim 11. (Currently amended) The medical screw of claim 1 wherein said shaft comprises a cylindrical portion and a tapered portion.

Claim 12. (Original) The medical screw of claim 2 wherein at least one of said first series and said second series of helical threads tapers from said head along said shaft.

Claim 13. (Original) The medical screw of claim 2 wherein the thickness of at least one of said first series and said second series of helical threads decreases along a portion of said shaft.

Claim 14. (Original) The medical screw of claim 2 wherein said first series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft, said second series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft, and wherein at least one of said first angle and said second angle of said first series

of helical threads is different from at least one of said first angle and said second angle of said second series of helical threads.

Claim 15. (Original) The medical screw of claim 2 wherein said first and second series of helical threads have an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft and wherein at least one of said first angle and said second angle of said first series of helical threads and said first angle and said second angle of said second series of helical threads changes along said shaft.

Claim 16. (Cancelled)

Claim 17. (Original) The medical screw of claim 2 wherein said first series of helical threads has a first pitch and said second series of helical threads has a second pitch and wherein at least one of said first pitch and said second pitch varies along said shaft.

Claim 18. (Currently amended) A medical screw comprising:
a head for receiving a screw driving device; and
a shaft having a length and extending from said head, wherein said shaft includes a threaded portion and a counter-rotation channel configured to receive bone growth; and
at least one counter-rotation tooth, wherein said counter-rotation tooth is adjacent said counter-rotation channel.

Claim 19. (Original) The medical screw of claim 18 wherein said shaft further comprises a distal guiding tip proximate to said threaded portion and configured to introduce said medical into a pre-drilled implantation site.

Claim 20. (Original) The medical screw of claim 18 wherein said threaded portion of said medical screw comprises a first series of helical threads having a first diameter, and a second series of helical threads interleaved with said first series of helical threads and having a second diameter wherein said second diameter is different from said first diameter.

Claim 21. (Original) The medical screw of claim 19 wherein said distal guiding tip terminates in a point.

Claim 22. (Original) The medical screw of claim 19 wherein said distal guiding tip terminates in a beveled face.

Claim 23. (Original) The medical screw of claim 18 wherein said head is configured as one of a hexagon, square and rectangular head.

Claim 24. (Original) The medical screw of claim 18 wherein said head comprises at least one eyelet for receiving sutures.

Claim 25. (Cancelled)

Claim 26. (Original) The medical screw of claim 18 wherein said shaft is cylindrical.

Claim 27. (Cancelled)

Claim 28. (Original) The medical screw of claim 18 wherein said shaft comprises a cylindrical portion and a tapered portion.

Claim 29. (Original) The medical screw of claim 20 wherein said at least one of said first series and said second series of helical threads tapers from said head along said shaft.

Claim 30. (Original) The medical screw of claim 20 wherein the thickness of at least one of said first series and said second series of helical threads decreases along a portion of said shaft.

Claim 31. (Original) The medical screw of claim 20 wherein said first series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft, said second series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft, and wherein at least one of said first angle and said second angle of said first series of helical threads is different from at least one of said first angle and said second angle of said second series of helical threads.

Claim 32. (Original) The medical screw of claim 20 wherein said first and second series of helical threads have an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft and wherein at least one of said first angle and said second angle of said first series of helical threads and said first angle and said second angle of said second series of helical threads changes along said shaft.

Claim 33. (Original) The medical screw of claim 18 wherein said threaded portion of said medical screw comprises a series of helical threads which changes in diameter along said shaft.

Claim 34. (Original) The medical screw of claim 20 wherein said first series of helical threads has a first pitch and said second series of helical threads has a second pitch and wherein at least one of said first pitch and said second pitch varies along said shaft.

3

Claim 35. (Currently amended) A medical screw ~~having a shaft, wherein said shaft comprises:~~ comprising:

a head for receiving a screw driving device;

a shaft extending from the head, the shaft including:

a threaded portion having helical threads that have rounded surfaces and that change in diameter along the shaft; and

a distal guiding tip ~~adjacent said threaded portion wherein said distal guiding tip~~
~~is configured to introduce for introducing~~ said screw into a pre-drilled implantation site;
and
~~a slot for receiving a screw driving device.~~

Claim 36. (Original) The medical screw of claim 35 wherein said threaded portion of said medical screw comprises a first series of helical threads having a first diameter and a second series of helical threads interleaved with said first series of helical threads and having a second diameter, wherein the second diameter is different from said first diameter.

Claim 37. (Original) The medical screw of claim 35 wherein said distal guiding tip terminates in a point.

Claim 38. (Original) The medical screw of claim 35 wherein said distal guiding tip terminates in a beveled face.

Claim 39. (Cancelled)

Claim 40. (Original) The medical screw of claim 35 wherein said shaft further comprises at least one eyelet for receiving sutures.

Claim 41. (Cancelled)

Claim 42. (Original) The medical screw of claim 35 wherein said shaft is cylindrical.

Claim 43. (Original) The medical screw of claim 35 wherein said shaft tapers and terminates at a point.

Claim 44. (Original) The medical screw of claim 35 wherein said shaft comprises a cylindrical portion and a tapered portion.

Claim 45. (Original) The medical screw of claim 36 wherein said shaft has a proximate end and a distal end and wherein at least one of said first series and said second series of helical threads tapers from said proximate end to adjacent said distal end of said shaft.

Claim 46. (Original) The medical screw of claim 36 wherein the thickness of at least one of said first series and said second series of helical threads decreases along a portion of said shaft.

Claim 47. (Original) The medical screw of claim 36 wherein said first series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft, said second series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft and wherein at least one of said first angle and said second angle of said first series of helical threads is different from at least one of said first angle and said second angle of said second series of helical thread.

Claim 48. (Original) The medical screw of claim 36 wherein said first and second series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft and wherein at least one of said first angle and said second angle of said first series of helical threads and said first angle and said second angle of said second series of helical threads changes along said shaft.

Claim 49. (Cancelled)

Claim 50. (Original) The medical screw of claim 36 wherein said first series of helical threads has a first pitch and said second series of helical threads has a second pitch and wherein at least one of said first pitch and said second pitch varies along said shaft.

Claim 51. (Currently amended) A medical screw having a shaft comprising:

a head for receiving a screw driving device;
a shaft extending from the head, the shaft including:
a ~~thread~~ threaded portion having helical threads that have rounded surfaces and
that change in diameter along the shaft;
at least one counter-rotation channel configured to receive bone growth, and
a slot for receiving a screw driving device.

Claim 52. (Original) The medical screw of claim 51 wherein said threaded portion of said medical screw comprises a first series of helical threads having a first diameter, and a second series of helical threads interleaved with said first series of helical threads and having a second diameter wherein said second diameter is different from said first diameter.

Claim 53. (Original) The medical screw of claim 51 wherein said shaft further comprises at least one eyelet for receiving sutures.

Claim 54. (Cancelled)

Claim 55. (Original) The medical screw of claim 51 wherein said shaft is cylindrical.

Claim 56. (Original) The medical screw of claim 51 wherein said shaft tapers and terminates at a point.

Claim 57. (Original) The medical screw of claim 51 wherein said shaft comprises a cylindrical portion and a tapered portion.

Claim 58. (Original) The medical screw of claim 52 wherein said shaft has a proximate end and a distal end and wherein at least one of said first series and said second series of helical threads tapers from said proximate end to adjacent said distal end of said shaft.

Claim 59. (Original) The medical screw of claim 52 wherein the thickness of at least one of said first series and said second series of helical threads decreases along a portion of said shaft.

Claim 60. (Original) The medical screw of claim 52 wherein said first series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft, said second series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft, and wherein at least one of said first angle and said second angle of said first series of helical threads is different from at least one of said first angle and said second angle of said second series of helical threads.

Claim 61. (Original) The medical screw of claim 52 wherein said first and second series of helical threads has an upper surface configured at a first angle to said shaft and an under surface configured at a second angle to said shaft and wherein at least one of said first angle and said second angle of said first series of helical threads and said first angle and said second angle of said second series of helical threads changes along said shaft.

Claim 62. (Original) The medical screw of claim 51 wherein said threaded portion of said medical screw comprises a series of helical threads which changes in diameter along said shaft.

Claim 63. (Original) The medical screw of claim 52 wherein said first series of helical threads has a first pitch and said second series of helical threads has a second pitch and wherein at least one of said first pitch and said second pitch varies along said shaft.

Claims 64-66. (Cancelled)

Claim 67. (New) The medical screw of claim 18 wherein the counter-rotation tooth rises adjacent the counter-rotation channel at an angle beyond an angle of a surface of the helical thread.

Claim 68. (New) A medical screw comprising:
a head for receiving a screw driving device;
a shaft having a length and extending from said head, wherein said shaft includes a threaded portion having helical threads and a distal guiding tip for introducing said screw into a pre-drilled implantation site; and
a spring-loaded thread member within the threaded portion and connected to the shaft by a connector member.

Claim 69. (New) The medical screw of claim 68 wherein the spring-loaded thread member includes two fingers that are integrally connected at the connector member at a first end and that terminate at second ends at respective teeth.

Claim 70. (New) The medical screw of claim 69 wherein the fingers are configured to be forced together when the screw is rotated into an implantation site.

Claim 71. (New) The medical screw of claim 7 wherein the teeth are adjacent the counter-rotation channel.

Claim 72. (New) The medical screw of claim 69 wherein a first tooth of a first finger of the spring-loaded thread member extends at an angle beyond an angle of a first surface of the helical thread.

Claim 73. (New) The medical screw of claim 72 wherein a second tooth of a second finger of the spring-loaded thread member extends at an angle beyond an angle of a second surface of the helical thread.

Claim 74. (New) The medical screw of claim 68 wherein the distal guiding tip terminates in a point.

Claim 75. (New) A medical screw comprising:
a head for receiving a screw driving device;
a shaft having a length and extending from said head, wherein said shaft includes a threaded portion and a counter-rotation channel configured to receive bone growth; and
a spring-loaded thread member within the threaded portion and connected to the shaft by a connector member.

Claim 76. (New) The medical screw of claim 75 wherein the spring-loaded thread member includes two fingers that are integrally connected at the connector member at a first end and that terminate at second ends at respective teeth.

Claim 77. (New) The medical screw of claim 76 wherein the fingers are configured to be forced together when the screw is rotated into an implantation site.

Claim 78. (New) The medical screw of claim 76 wherein the teeth are adjacent the counter-rotation channel.

Claim 79. (New) The medical screw of claim 76 wherein a first tooth of a first finger of the spring-loaded thread member extends at an angle beyond an angle of a first surface of the helical thread.

Claim 80. (New) The medical screw of claim 79 wherein a second tooth of a second finger of the spring-loaded thread member extends at an angle beyond an angle of a second surface of the helical thread.

Claim 81. (New) The medical screw of claim 74 wherein the head comprises at least one eyelet for receiving sutures.

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Page : 14 of 15

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Claim 82. (New) The medical screw of claim 74 wherein the shaft is cylindrical.

Claim 83. (New) The medical screw of claim 74 wherein the shaft comprises a tapered portion.